

Table 1:

murine V heavy chain:

5'-primer

MVH1	5'- (GC) AGGTGCAGCTCGAGGAGTCAGGACCT-3'
MVH2	5'-GAGGTCCAGCTCGAGCAGTCTGGACCT-3'
MVH3	5'-CAGGTCCAACCTCGAGCAGCCTGGGGCT-3'
MVH4	5'-GAGGTTTCAGCTCGAGCAGTCTGGGGCA-3'
MVH5	5'-GA (AG) GTGAAGCTCGAGGAGTCTGGAGGA-3'
MVH6	5'-GAGGTGAAGCTTCTCGAGTCTGGAGGT-3'
MVH7	5'-GAAGTGAAGCTCGAGGAGTCTGGGGGA-3'
MVH8	5'-GAGGTTTCAGCTCGAGCAGTCTGGAGCT-3'

3'-primer

MIgG1	5'-TATGCAACTAGTACAACCACAATCCCTGGG-3'
MIgG2a	5'-GAGAGAGGGGTTCTGACTAGTGGGCACTCTGGGCTC-3'
MIgG2b	5'-CTCCTTACTAGTAGGACAGGGGTTGATTGT-3'
MIgG3	5'-GTTACCACTAGTGCATGAAGAACCTGGGGG-3'

murine V kappa chain:

5'-primer

MUVK1	5'-CCAGTTCCGAGCTCGTTGTGACTCAGGAATCT-3'
MUVK2	5'-CCAGTTCCGAGCTCGTGTTGACGCAGCCGCCC-3'
MUVK3	5'-CCAGTTCCGAGCTCGTGCTCACCCAGTCTCCA-3'
MUVK4	5'-CCAGTTCCGAGCTCCAGATGACCCAGTCTCCA-3'
MUVK5	5'-CCAGATGTGAGCTCGTGATGACCCAGACTCCA-3'
MUVK6	5'-CCAGATGTGAGCTCGTCATGACCCAGTCTCCA-3'
MUVK7	5'-CCAGTTCCGAGCTCGTGATGACACAGTCTCCA-3'

3'-primer

MUCK	5'-GCGCCGTCTAGAATTAACACTCATTCCTGTTGAA -3'
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Fig. 1: Structure of the TCR: schematic representation of early events in T-cell activation

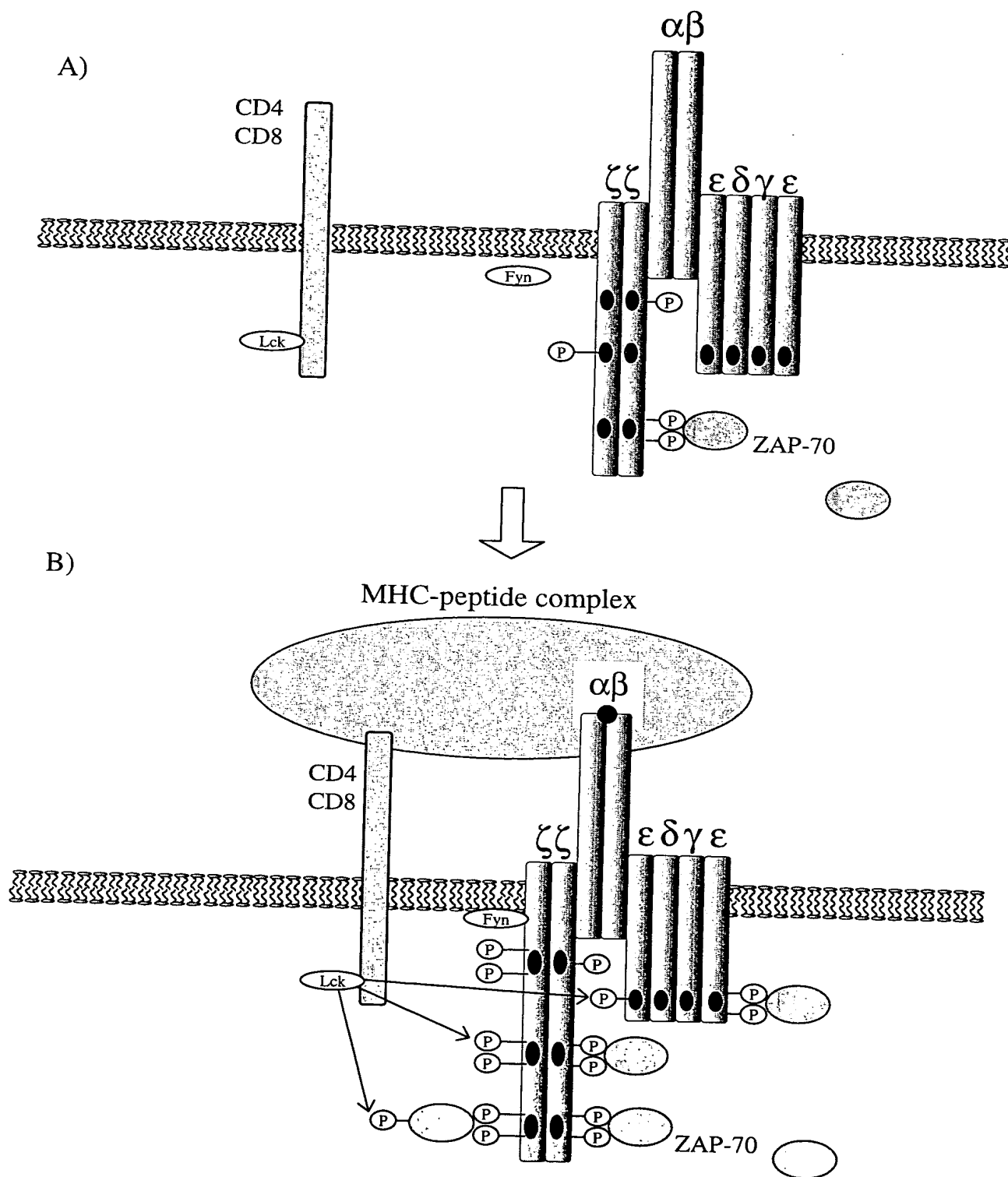


Fig. 2:

ELISA-analysis of zeta-chain specific Fab-antibody-fragments
selected by phage display technique:
Binding ability on soluble zeta-peptide-BSA-conjugate

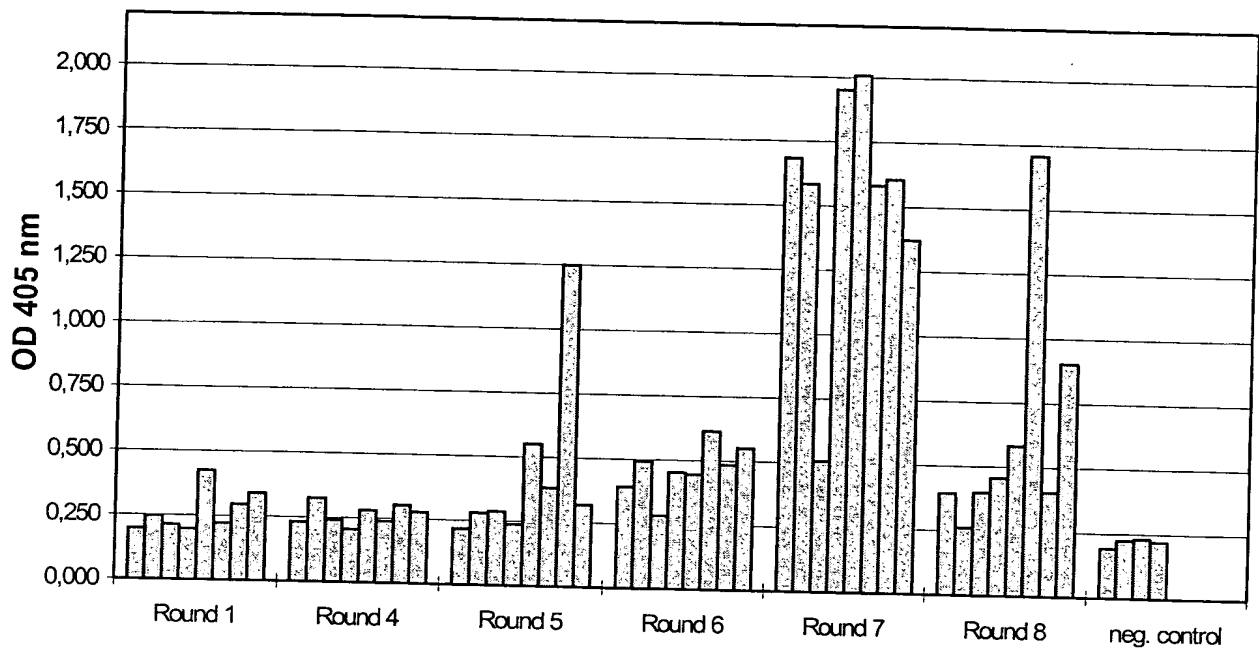


Fig. 3a: CD8⁺-T-lymphocytes stained with
2-B-5 hybridoma culture supernatant

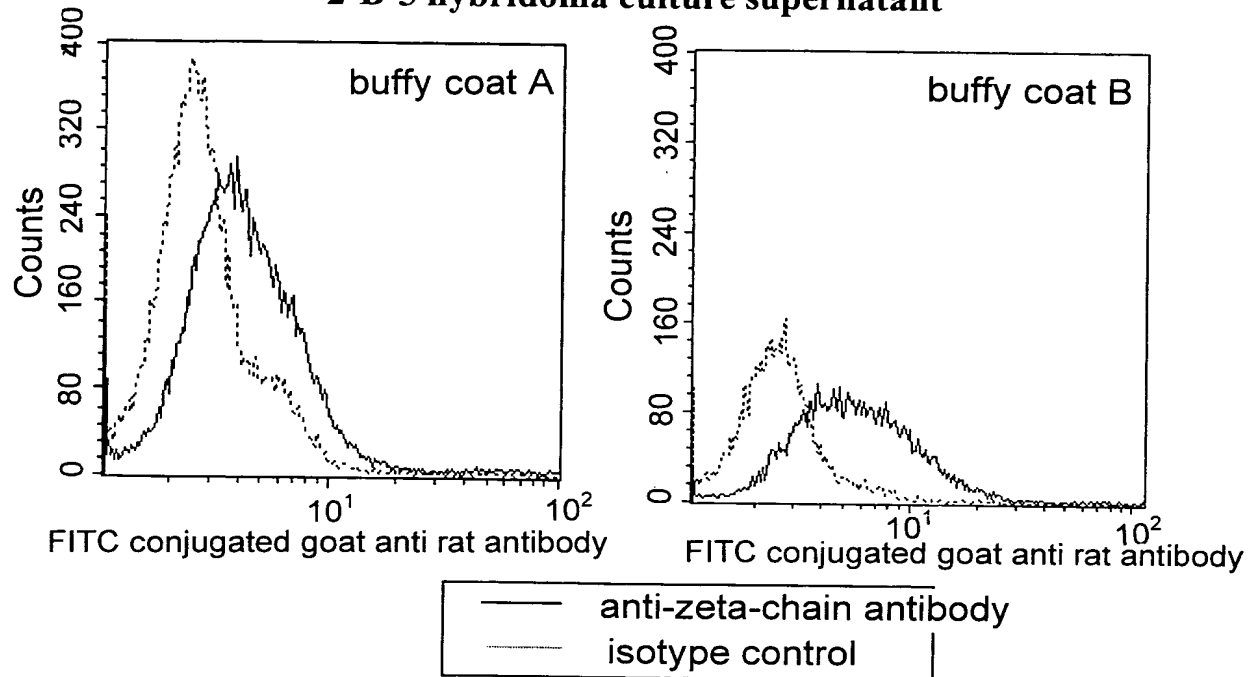


Fig. 3b: CD56⁺ NK-cells stained with
2-B-5 hybridoma culture supernatant

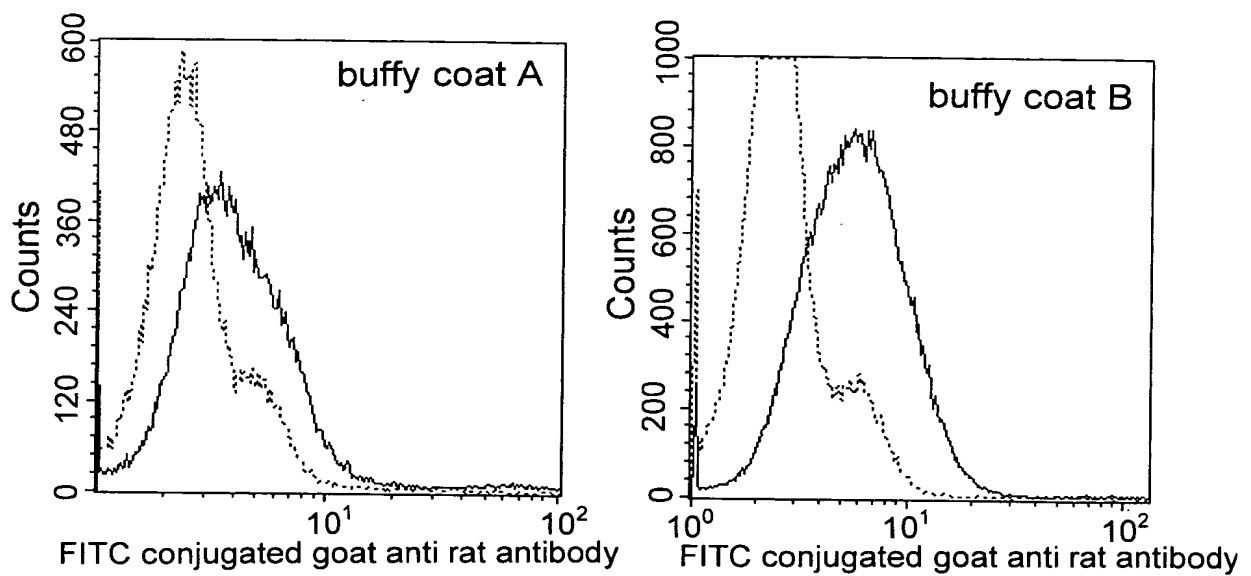


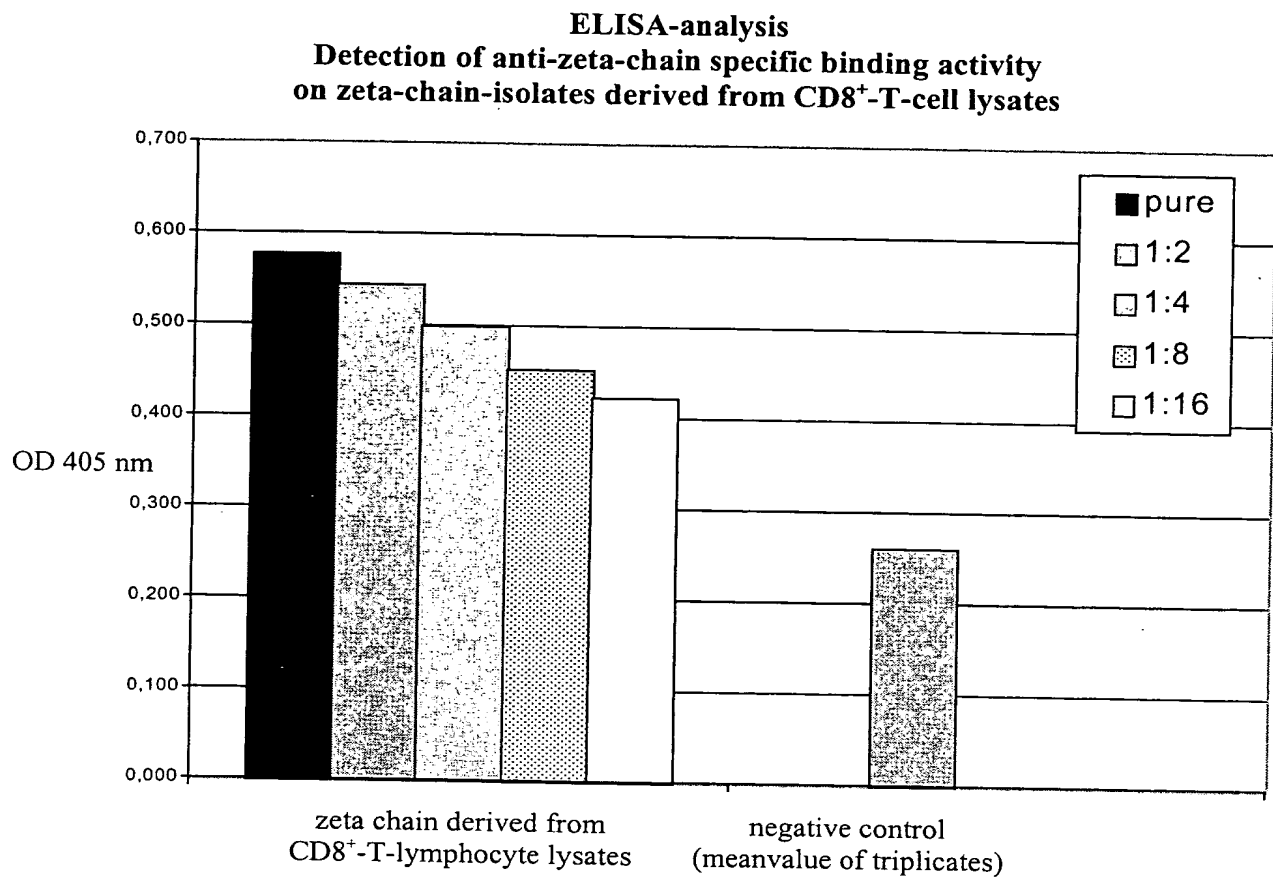
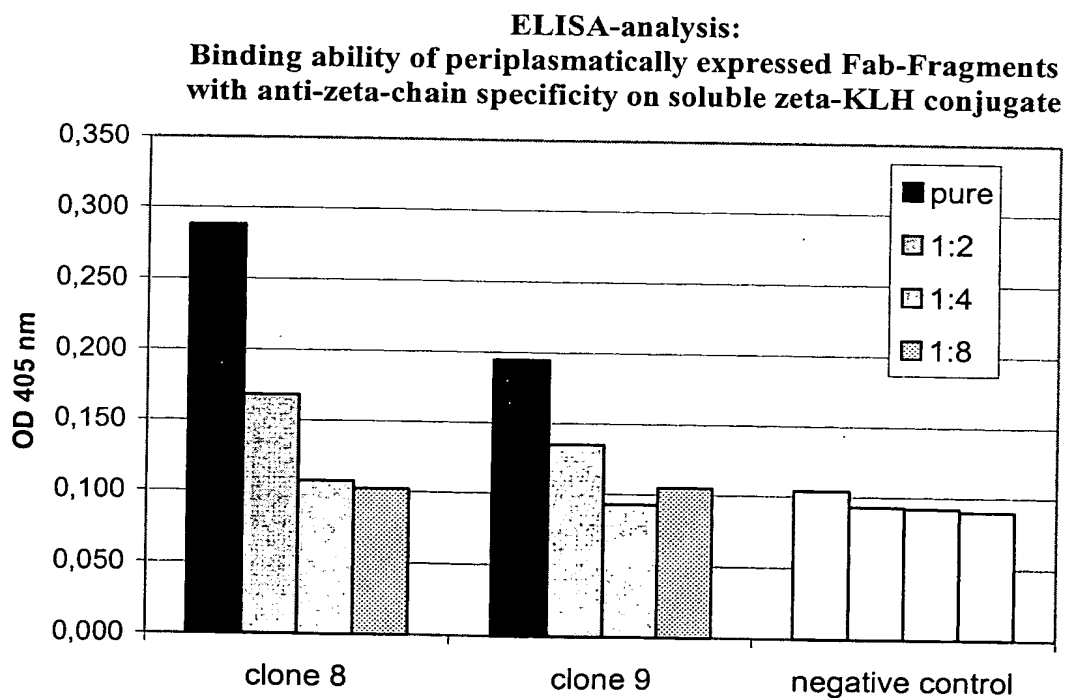
Fig. 4:**Fig. 5:**

Fig. 6:

5' CAG GTA CAG CTG CAG CAA TCT GGG GCT GAA CTA GTG AAG CCT GGG TCC TCA GTG
 Q V Q L Q Q S G A E L V K P G S S V

CDR 1

AAA ATT TCC TGC AAG GCT TCT GGC TAC ACA TTC ACC AGT TAC GAT ATG CAC TGG
 K I S C K A S G Y T F T S Y D M H W

ATA AAA CAG CAG CCT GGA AAT GGC CTT GAG TGG ATT GGG TGG ATT TAT CCT GGA
 I K Q Q P G N G L E W I G W I Y P G

CDR 2

AAT GGT AAT ACT AAG TAC AAT CAA AAG TTC AAT GGG AAG GCA ACA CTC ACT GCA
 N G N T K Y N Q K F N G K A T L T A

GAC AAA TCC TCC AGC ACA GCC TAT ATG CAG CTC AGC AGC CTG ACA TCT GAG GAC
 D K S S S T A Y M Q L S S L T S E D

CDR 3

TCT GCA GTC TAT TTC TGT GCA AGA GAT TGG CAT TAC TAT AGC AGC TAT ATC CGT
 S A V Y F C A R D W H Y Y S S Y I R

CCC TTT GCT TAC TGG GGC CAA GGC ACT CTG GTC ACT GTC TCT TCA 3'
 P F A Y W G Q G T L V T V S S

Fig. 7:

5'	GAC	ATC	CAG	ATG	ACA	CAG	TCT	CCT	GCT	TCC	CTG	TCT	GCG	TCT	CCG	GAA	GAA	ATT
	D	I	Q	M	T	Q	S	P	A	S	L	S	A	S	P	E	E	I

CDR 1

GTC	ACG	ATC	ACA	TGC	CAG	GCA	AGC	CAG	GAC	ATT	GGT	AAT	TGG	TTA	GCA	TGG	TAT
V	T	I	T	C	Q	A	S	Q	D	I	G	N	W	L	A	W	Y

CDR 2

CAG	CAG	AAA	CCA	GGG	AAA	TCT	CCT	CAA	CTC	CTG	ATC	TAT	AGT	GCA	ACC	AGC	TTG
Q	Q	K	P	G	K	S	P	Q	L	L	I	Y	S	A	T	S	L

GCA	GAC	GGG	ATC	CCA	TCA	AGG	TTC	AGC	GGC	AGT	AGA	TCT	GGT	ACA	CAG	TAT	TCT
A	D	G	I	P	S	R	F	S	G	S	R	S	G	T	Q	Y	S

CTT	AAG	ATC	AGC	AGA	CTA	CAG	GTT	GAA	GAT	ACT	GGA	ATC	TAT	TAC	TGT	CTA	CAG
L	K	I	S	R	L	Q	V	E	D	T	G	I	Y	Y	C	L	Q

CDR 3

CGT	TAT	AGT	AAT	CCC	AAC	ACG	TTT	GGA	GCT	GGG	ACC	AAG	CTG	GAG	CTG	AAA	3'
R	Y	S	N	P	N	T	F	G	A	G	T	K	L	E	L	K	

Fig. 8:

BrdU-cell-proliferation-ELISA to determine the stimulation of CD8⁺-T-cells, NK-cells and BMC by anti-zeta-chain-antibody 2-B-5

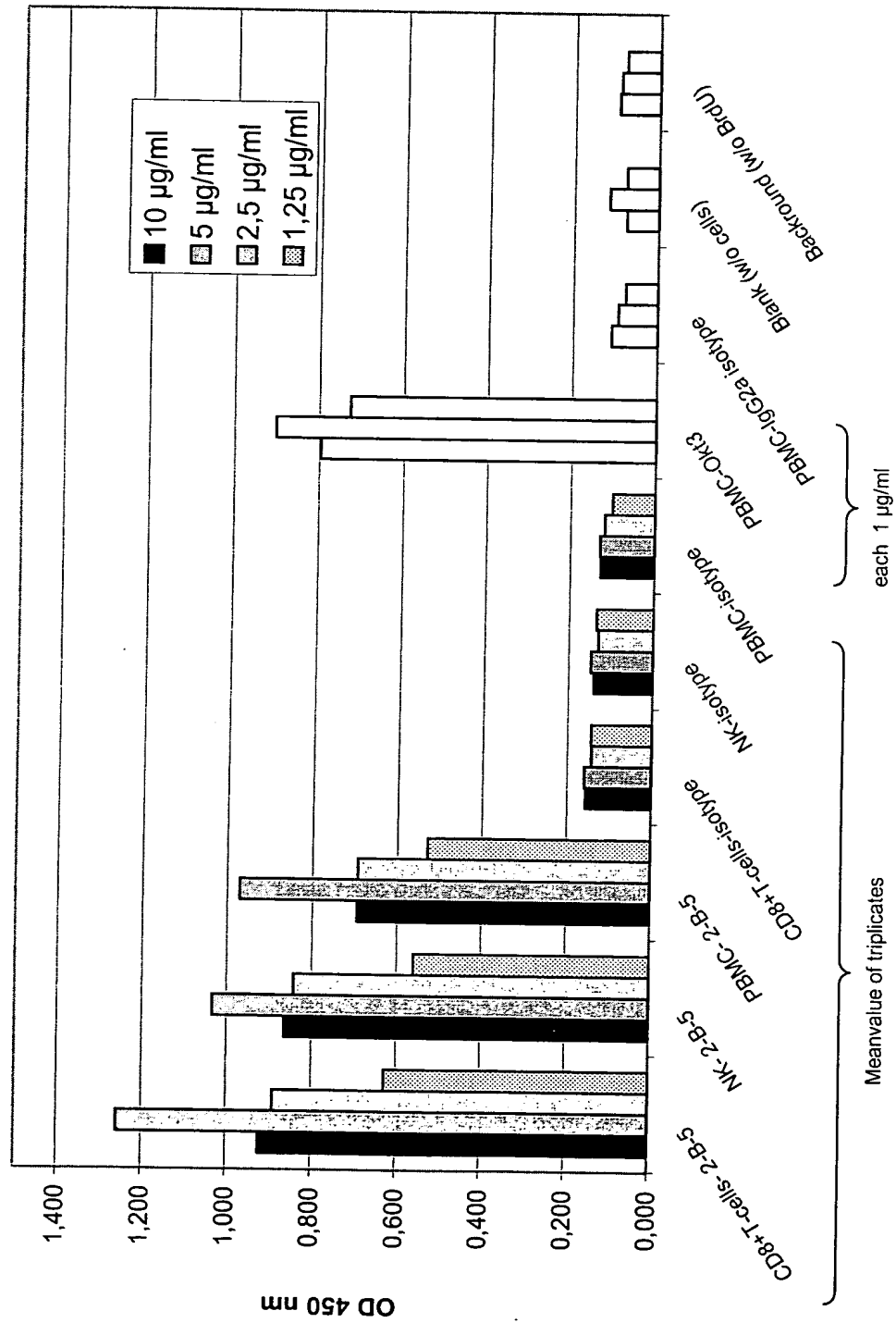


Fig. 9a:

PBMC stained with the anti-zeta 2B5 antibody
at different temperatures and incubation times

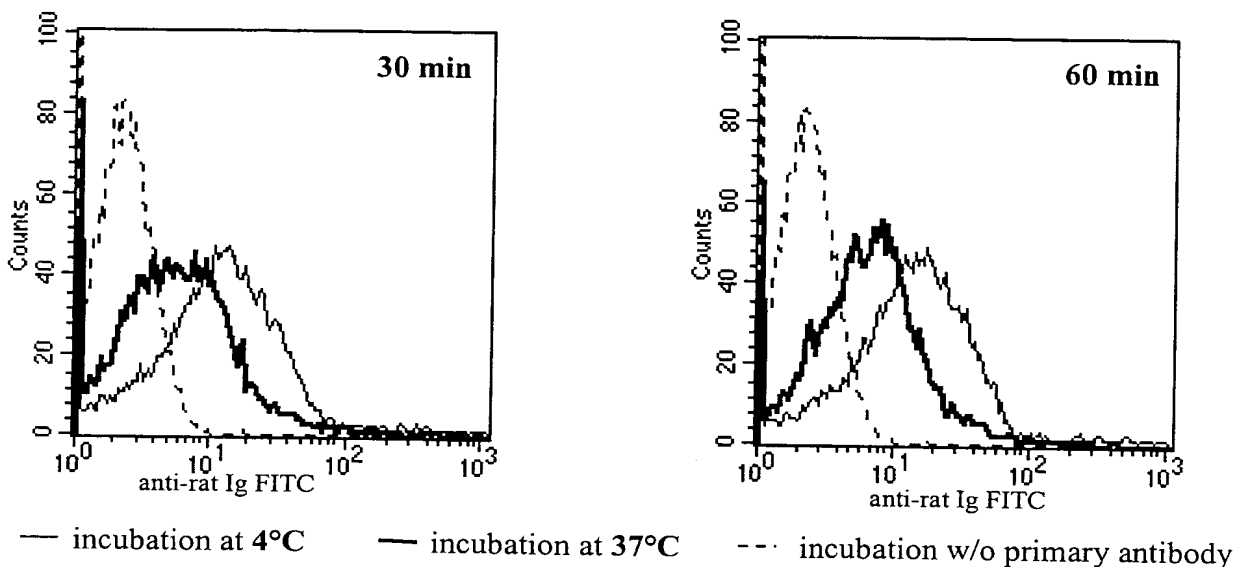
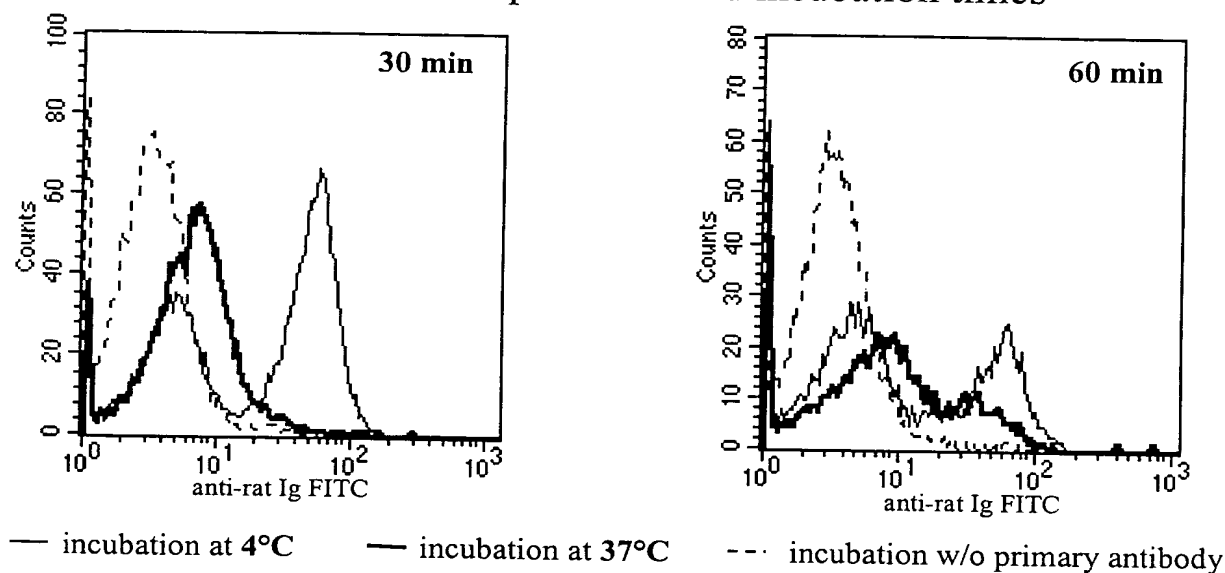
**Fig. 9b:** PBMC stained with the anti-CD3 antibody at different temperatures and incubation times

Fig. 10:

1 9
5' GAA TTC ACC

			18			27			36			45			54			63		
ATG	GGA	TGG	AGC	TGT	ATC	ATC	CTC	TTC	TTG	GTA	GCA	ACA	GCT	ACA	GGT	GTA	CAC			
			72			81			90			99			108			117		
TCC	GAT	ATC	CAG	ATG	ACA	CAG	TCT	CCT	GCT	TCC	CTG	TCT	GCG	TCC	CCG	GAA	GAA			
			126			135			144			153			162			171		
ATT	GTC	ACG	ATC	ACA	TGC	CAG	GCA	AGC	CAG	GAC	ATT	GGT	AAT	TGG	TTA	GCA	TGG			
			180			189			198			207			216			225		
TAT	CAG	CAG	AAA	CCA	GGG	AAA	TCT	CCT	CAA	CTC	CTG	ATC	TAT	AGT	GCA	ACC	AGC			
			234			243			252			261			270			279		
TTG	GCA	GAC	GGG	ATC	CCA	TCA	AGG	TTC	AGC	GGC	AGT	AGA	TCT	GGT	ACA	CAG	TAT			
			288			297			306			315			324			333		
TCT	CTT	AAG	ATC	AGC	AGA	CTA	CAG	GTT	GAA	GAT	ACT	GGA	ATC	TAT	TAC	TGT	CTA			
			342			351			360			369			378			387		
CAG	CGT	TAT	AGT	AAT	CCC	AAC	ACG	TTT	GGA	GCT	GGG	ACC	AAG	CTG	GAG	CTG	AAA			
			396			405			414			423			432			441		
GGT	GGT	GGT	GGT	TCT	GGC	GGC	GGC	GGC	TCC	GGT	GGT	GGT	GGT	TCT	CAG	GTA	CAG			
			450			459			468			477			486			495		
CTG	CAG	CAA	TCT	GGA	GCT	GAG	CTA	GTG	AAG	CCT	GGG	TCC	TCA	GTG	AAA	ATT	TCC			
			504			513			522			531			540			549		
TGC	AAG	GCT	TCT	GGC	TAC	ACA	TTC	ACC	AGT	TAC	GAT	ATG	CAC	TGG	ATA	AAA	CAG			
			558			567			576			585			594			603		
CAG	CCT	GGA	AAT	GGC	CTT	GAG	TGG	ATT	GGG	TGG	ATT	TAT	CCT	GGA	AAT	GGT	AAT			
			612			621			630			639			648			657		
ACT	AAG	TAC	AAT	CAA	AAG	TTC	AAT	GGG	AAG	GCA	ACA	CTC	ACT	GCA	GAC	AAA	TCC			
			666			675			684			693			702			711		
T	K	Y	N	Q	K	F	N	G	K	A	T	L	T	A	D	K	S			

Fig. 10 (cont.):

666	675	684	693	702	711
TCC AGC ACA GCC TAT	ATG CAG CTC	AGC AGC CTG	ACA TCT GAG	GAC TCT GCA	GTC
S S T A Y	M Q L	S S L	T S E	D S A	V
720	729	738	747	756	765
TAT TTC TGT GCA AGA	GAT TGG CAT	TAC TAT AGC	AGC TAT ATC	CGT CCC TTT	GCT
Y F C A R	D W H	Y Y S	S Y I	R P F	A
774	783	792	801	810	819
TAC TGG GGC CAA GGC	ACT CTG GTC	ACT GTC TCT	TCC GGA GGT	GGT GGT TCT	GAG
Y W G Q G	T L V	T V S	S S G	G G G	S E
828	837	846	855	864	873
GTG CAG CTG CTC GAG	CAG TCT GGA	GCT GAG CTG	GCG AGG CCT	GGG GCT TCA	GTG
V Q L L E	Q S G	A E L	A R P	G A S	V
882	891	900	909	918	927
AAG CTG TCC TGC AAG	GCT TCT GGC	TAC ACC TTC	ACA AAC TAT	GGT TTA AGC	TGG
K L S C K	A S G	Y T F	T N Y	G L S	W
936	945	954	963	972	981
GTG AAG CAG AGG CCT	GGA CAG GTC	CTT GAG TGG	ATT GGA GAG	GTT TAT CCT	AGA
V K Q R P	G Q V	L E W	I G E	V Y P	R
990	999	1008	1017	1026	1035
ATT GGT AAT GCT TAC	TAC AAT GAG	AAG TTC AAG	GGC AAG GCC	ACA CTG ACT	GCA
I G N A Y	Y N E	K F K	G K A	T L T	A
1044	1053	1062	1071	1080	1089
GAC AAA TCC TCC AGC	ACA GCG TCC	ATG GAG CTC	CGC AGC CTG	ACC TCT GAG	GAC
D K S S S	T A S	M E L	R S L	T S E	D
1098	1107	1116	1125	1134	1143
TCT GCG GTC TAT TTC	TGT GCA AGA	CGG GGA TCC	TAC GAT ACT	AAC TAC GAC	TGG
S A V Y F	C A R	R G S	Y D T	N Y D	W
1152	1161	1170	1179	1188	1197
TAC TTC GAT GTC TGG	GGC CAA GGG	ACC ACG GTC	ACC GTC TCC	TCA GGT GGT	GGT
Y F D V W	G Q G	T T V	T V S	S G G	G
1206	1215	1224	1233	1242	1251
GGT TCT GGC GGC GGC	TCC GGT GGT	GGT GGT TCT	GAG CTC GTG	ATG ACC CAG	
G S G G G	G S G	G G G	S E L	V M T	Q
1260	1269	1278	1287	1296	1305
ACT CCA CTC TCC CTG	CCT GTC AGT	CTT GGA GAT	CAA GCC TCC	ATC TCT TGC	AGA
T P L S L	P V S	L G D	Q A S	I S C	R

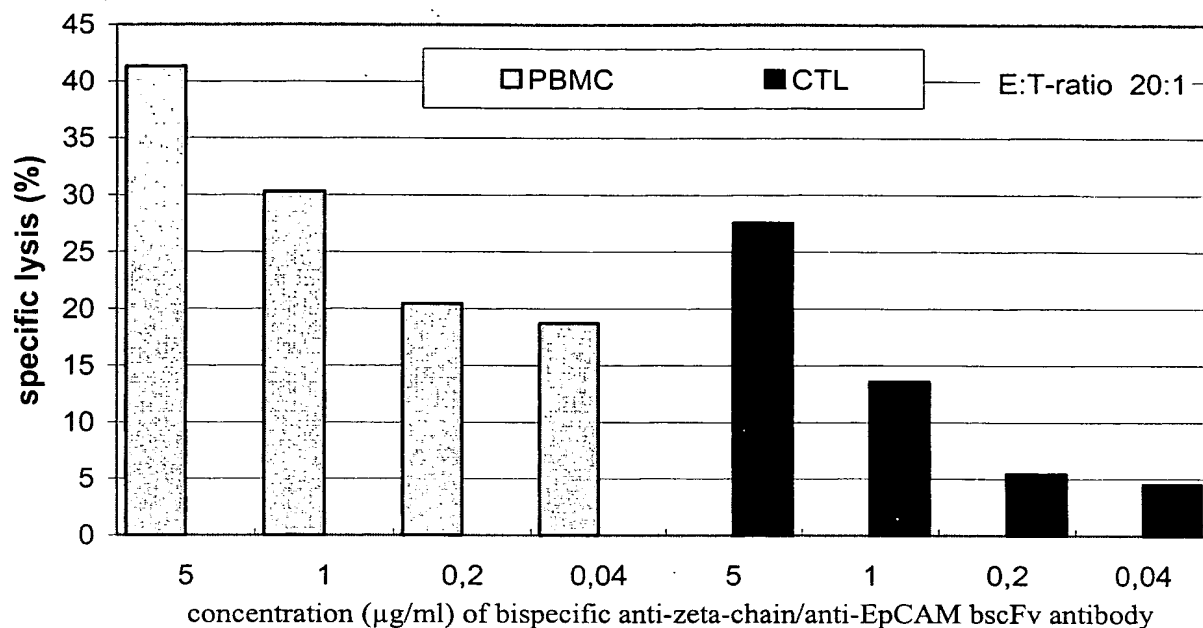
Fig. 10 (cont.):

1314				1323			1332			1341			1350			1359		
TCT	AGT	CAG	AGC	CTT	GTA	CAC	AGT	AAT	GGA	AAC	ACC	TAT	TTA	CAT	TGG	TAC	CTG	
S	S	Q	S	L	V	H	S	N	G	N	T	Y	L	H	W	Y	L	
1368				1377			1386			1395			1404			1413		
CAG	AAG	CCA	GGC	CAG	TCT	CCA	AAG	CTC	CTG	ATC	TAC	AAA	GTT	TCC	AAC	CGA	TTT	
Q	K	P	G	Q	S	P	K	L	L	I	Y	K	V	S	N	R	F	
1422				1431			1440			1449			1458			1467		
TCT	GGG	GTC	CCA	GAC	AGG	TTC	AGT	GGC	AGT	GGA	TCA	GGG	ACA	GAT	TTC	ACA	CTC	
S	G	V	P	D	R	F	S	G	S	G	S	G	T	D	F	T	L	
1476				1485			1494			1503			1512			1521		
AAG	ATC	AGC	AGA	GTG	GAG	GCT	GAG	GAT	CTG	GGA	GTT	TAT	TTC	TGC	TCT	CAA	AGT	
K	I	S	R	V	E	A	E	D	L	G	V	Y	F	C	S	Q	S	
1530				1539			1548			1557			1566			1575		
ACA	CAT	GTT	CCG	TAC	ACG	TTC	GGA	GGG	GGG	ACC	AAG	CTT	GAG	ATC	AAA	CGT	ACG	
T	H	V	P	Y	T	F	G	G	G	T	K	L	E	I	K	R	T	
1584				1593			1602			1611			1620			1629		
ACT	AGC	CAT	CAC	CAT	CAC	CAT	CAC	ACT	AGC	TAA	TTA	ATT	TAA	GCG	GCC	GCT	CTA	
T	S	H	H	H	H	H	H	T	S	*								
GAG TCG AC 3'																		

GAG TCG AC 3'

Fig. 11:

Cytotoxic activity of PBMC and CD8⁺-T-cells redirected against EpCAM-positive Kato cells by the anti-zeta-chain/anti-EpCAM antibody

**Fig. 12:**

Cytotoxic activity of NK-cells redirected against EpCAM-positive Kato cells by the bispecific anti-zeta-chain/anti-EpCAM antibody

